Homecheck Professional
Ground Stability Report

User Guide

www.homecheckpro.co.uk

0844 844 9966

20/06/07

home check professional
A Landmark service
Ground Stability Report

User Guide

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Appendix

1. Introduction – about this Guide

1.1 This Guide has been prepared by Landmark Information Group to assist busy conveyancing practitioners to decide:

Whether to obtain a Homecheck Professional Ground Stability Report on behalf of their clients.

What that search reveals.

What steps they should take next, in the best interests of their clients.

1.2 The Guide is not intended to usurp the role of the professional advisor, who is uniquely placed to view the whole transaction in consultation with the client, but it is intended to inform that discussion and provide guidance to the advisor in that situation on how to progress the matter speedily, efficiently and cost-effectively.

1.3 It is intended that this Guide is regularly updated to keep pace with the rapid changes to the conveyancing process and to reflect the role which accurate and dependable environmental information plays in that process. Copies of this Guide are available free of charge from www.homecheckpro.co.uk. Alternatively call the Homecheck Professional Ground Stability Report helpline on 0844 844 9966 or email helpdesk@landmarkinfo.co.uk.

2. Why should I get a Homecheck Professional Ground Stability Report?

2.1 High profile media coverage of properties affected by subsidence offers a timely reminder to the practitioner of the importance of ground stability. As an authorised element of the future Home Information Pack, the Homecheck Professional Ground Stability report represents the first widely available information covering all types of mining and other ground stability issues. It is a valuable screening tool allowing potential risks to be identified in a timely and cost effective manner.

2.2 A Homecheck Professional Ground Stability Report will give the practitioner as much information as is currently economically available, in an accurate and dependable form, on which to base the discussions and advice to their client.

3. When should I get a Homecheck Professional Ground Stability Report?

3.1 We recommend that a Homecheck Professional Ground Stability Report should be obtained in connection with any dealing or valuation to do with domestic property, including purchase, mortgage, or further advance, or before any domestic building work, such as self-build or an extension, is undertaken. The report should be obtained before exchange of contracts or any other form of binding obligation.

3.2 The Homecheck Professional Ground Stability Report is intended for individual domestic properties only.

4. How do I get a Homecheck Professional Ground Stability Report?

4.1 A Homecheck Professional Ground Stability Report can be ordered by using one of our order forms or alterntively via our website at www.homecheckpro.co.uk.

To obtain an order form or register for an account to order online please contact:

Landmark Information Group Limited
Legal & Financial
The Smith Centre
Fairmile
Henley-on-Thames
RG9 6AB

Telephone: **0844 844 9966**
Fax: **0844 844 9980**
DX: **154400 Henley-on-Thames 2**
E-mail: **helpdesk@landmarkinfo.co.uk**
Internet: **www.homecheckpro.co.uk**

4.2 A separate search should be made for each individual property having a different postal address.

4.3 Order forms should be completed by including:

The full postal address and postcode of the property.

The name and Document Exchange (DX) number (if applicable) of the practitioner.

The practitioner's file reference and telephone number.

A plan of the property (see paragraph 4.4 below).

4.4 If you are using an order form it is requested that a plan showing the location of the property is enclosed with your order. If a plan is not supplied there may be difficulties in identifying the location of the property and this may introduce a delay.

4.5 In normal circumstances a Homecheck Professional Ground Stability Report will be despatched to the practitioner within 24 to 48 hours of the receipt of the order.

4.6 The Homecheck Professional Ground Stability Report is also available electronically, normally within 24 hours.

5. What is my Homecheck Professional Ground Stability Report telling me?

5.1 The report will include information from a number of statutory and non-statutory sources, and also provides guidance on the presence of a feature that could create a subsidence hazard, whether natural or man made. This allows the legal professional to screen for potential risks and and identify any need to engage a surveyor or structural engineer on specific issues.

5.2 Sitescope has agreements for the supply or collection of data with a number of national data providers. Notably, Sitescope is a Licensed Partner of Ordnance Survey and a Value Added Reseller for the Coal Authority and British Geological Survey. The currency of the datasets used is determined by the frequency of updates by the data providers under their respective agreements with Sitescope.

5.3 Any person relying on a Homecheck Professional Ground Stability Report must comply with the attached Terms and Conditions.

5.4 The replies in the Homecheck Professional Ground Stability Report will be given in the belief that they accord with the data sets and update cycles listed in Appendix 2, but on the understanding that Sitescope is not legally responsible for them except as detailed in the Terms and Conditions, which may vary from time to time.

5.5 Sitescope is constantly working with data providers to improve the data sets and the information available to Sitescope may change. Accordingly, there is no protection period relating to a Homecheck Professional Ground Stability Report and practitioners should not attempt to rely on a previous report. Practitioners who rely on a previous report will not have the benefit of Sitescope's Professional Indemnity Insurance cover.

5.6 Practitioners should note that addresses may have been compared to the Royal Mail Postal Address File standard and therefore may have been changed to comply with this standard.

5.7 The report is split into a summary section, which gives basic information in an easy to understand question and answer format, and an additional information section which gives further details if records are revealed.

5.8 The practitioner should normally be able to easily verify that the report has been correctly located on the subject property using the Site Location map. In the event of any doubt as to the correct location the practitioner should raise this immediately with the agent.

Enquiries and Replies

5.9 The Homecheck Professional Ground Stability Report will be based on the information listed in Appendix 2 to this Guide. The practitioners' attention is drawn to the update cycles for this information.

5.10 The Homecheck Professional Ground Stability Report uses the boundary of the property as the basis of the search if this is digitised. Alternatively, the search can be ordered as a point location and our system will construct a 25m radius circle around this point which will be used as the property boundary for the purposes of the report.

Please note that use of the 25m circle is not an attempt to make an approximation of the property boundary.

5.11 Section A of the report contains Enquiries relating to Mining. The enquiries relate to land within 0 - 250 metres from the property boundary. No additional information is provided for section A3 and only the additional information for section A5 includes a location map, if records are revealed as the data for the other sections is not mapped.

These answers are drawn from the following data sets:

Mining Instability (Ove Arup & Partners).

Potential Non Coal Mining Areas (Wardell Armstrong LLP).

Coal Mining Affected Areas (The Coal Authority).

Shallow Mining Hazards (BGS).

Natural and Mining Cavities (Peter Brett Associates).

BGS Recorded Mineral Sites (BGS).

Potentially Contaminative Industrial Uses (Past Land Use).

The information provided relating to Potentially Contaminative Industrial Uses (Past Land Use) has been identified by the analysis of selected Ordnance Survey historical mapping and fall into the following categories:

Air Shafts

General quarrying

Heap, unknown constituents

Mineral railway

Mining & quarrying general

Mining of coal & lignite

Quarrying of sand & clay, operation of sand & gravel pits

5.12 Section B of the Report contains Enquiries relating to Brine and Salt Extraction. The enquiries relate to land within 0 - 250 metres from the property boundary. No maps are included in the additional information section.

The enquiries relate to the following:

Brine Compensation Areas (Cheshire Brine Subsidence Compensation Board).

Brine Pumping Related Features (Wardell Armstrong LLP).

5.13 Section C of the Report contains Enquiries relating to Man Made Stability Hazards. The enquiries relate to land within 0 - 250 metres from the property boundary, with the exception of BGS Boreholes which relate to land within 50 metres. Only the additional information sections for C2, C3 and C4 include a location map as the data for the other sections is not mapped.

The enquiries relate to the following:

Potentially Contaminative Industrial Uses (Past Land Use).

Former Marshes.

Potentially Infilled Land (Non-Water).

Potentially Infilled Land (Water).

BGS Recorded Landfill Sites (BGS).

Registered Landfill Sites (The Environment Agency).

Local Authority Recorded Landfill Sites (Local Authorities).

Licensed Waste Management Facilities (Landfill Boundaries) (The Environment Agency).

Licensed Waste Management Facilities (Locations) (The Environment Agency).

BGS Boreholes (BGS).

The information provided relating to Potentially Contaminative Industrial Uses (Past Land Use) has been identified by the analysis of selected Ordnance Survey historical mapping and relate to the category of Disturbed Ground.

5.14 Section D of the Report contains Enquiries relating to Natural Ground Stability Hazards.The enquiries relate to land within 0 - 250 metres from the property boundary. No maps are included in the additional information section.

The enquiries relate to the following:

Potential for Landslide Ground Stability Hazards

Potential for Ground Dissolution Stability Hazards

Potential for Compressible Ground Stability Hazards

Potential for Shrinking or Swelling Clay Ground Stability Hazards

Potential for Running Sand Ground Stability Hazards

Potential for Collapsible Ground Stability Hazards

All these data sets are provided by the BGS.

6. How do I proceed now?

6.1 The Homecheck Professional Ground Stability Report constitutes what is known as a “desk-study”, occasionally known as a “screening report”, which is an information-gathering source. The information revealed in the search report is a starting point for further investigation. It cannot give definitive answers to what problems actually affect individual properties.

6.2 The practitioner will now need to discuss the implications of the information provided with the client and others involved in the purchase transaction, including lenders and other professionals, to decide how best to proceed.

6.3 Essentially, the Report will show either:

No identifiable problem.

Entries in relation to which further advice/further investigation may be necessary.

6.4 The decision whether to proceed, undertake further investigations or withdraw must be the client’s, and it will frequently depend on factors unrelated to the information revealed by the search. Factors such as the cost of the further investigations, the difficulty or delay involved in undertaking them, the accuracy and helpfulness of the further information revealed, the general time scale of the transaction and the client’s attitude to risk will all influence the decision.

6.5 It cannot be over-emphasised that until the actual extent of a potential problem is investigated and revealed, a practitioner cannot fully advise on its implications, and the Homecheck Professional Ground Stability Report is only designed to provide the information to enable practitioners to identify the next questions.

6.6 The report should be kept with the title deeds, along with other important documentation.

Appendix 1: Potential Mining Areas

The following categories of minerals are contained in the Potential Mining Areas data.

Mineral	Description	Location
Anhydrite	Anhydrite is white, sometimes greyish, bluish or purple calcite mineral which, when exposed to water, readily transforms to the more commonly occurring gypsum. It is most frequently found in salt deposits within a gypsum area, where depth is the critical factor. The nearer the surface the more likely anhydrite will be altered to gypsum by absorption of circulating ground water. It was used as a source of sulphur for use in fertilizers and as a constituent of sulphuric acid. Demand is currently very low and the last mine devoted to production for sulphuric acid closed in 1975.	Originally found in Cumbria, Nottinghamshire, East Sussex, Leicestershire and Staffordshire, with the East Midlands being the most important area.
Arsenic	Arsenic is a notoriously poisonous metalloid that is used in pesticides, herbicides, insecticides and various alloys. It is chemically very similar to phosphorus and the fumes given off when it oxidises have an odour resembling garlic. Lead hydrogen arsenate has been used, well into the 20th century, as an insecticide on fruit trees (resulting in neurological damage to those working the sprayers. The historical application of most concern to the general public is probably that of wood which has been treated with chromated copper arsenate (CCA), and the vast majority of older “pressure treated” wood).	The majority of arsenic mining was conducted in Cornwall and West Devon, accounting for both mineral deposits and spoil heaps, although there are also very small natural concentrations in the ground and stream water in Lincolnshire, Leicestershire, Oxfordshire & Northamptonshire.
Ball Clay	Ball clays consist chiefly of the clay mineral kaolinite, with a minor amount of montmorillonite and organic material. Ball clay is lightweight, chalk-like in appearance, and used in china, whiteware, and various ceramic products.	It is especially concentrated in Dorset.
Bauxite	Bauxite is a sedimentary rock produced by in situ chemical weathering typically under tropical to subtropical climate conditions. It is the raw material most widely used in the production of aluminium on a commercial scale.	Major world concentrations are in Australia & Brazil. UK historic mining was highly localised and focused along the south coast.
Chalk	In England the Chalk topographically forms what are known as the ‘Downs’ in southern and eastern counties. It is exposed in quarries and roadcutting but the best exposures are along the coastlines where Chalk often forms spectacular clifflines, the most famous of which are the ‘White Cliffs of Dover.’ It is comprised of a sequence of mainly soft, white, very fine-grained extremely pure limestones which are commonly 300-400 m thick. In Yorkshire the chalk of the Yorkshire wolds and the cliffs at Scarborough are much harder than the chalks of Southern England. Chalk cliffs, due to their weakness, erode relatively quickly, yet the interbedding of weak and stronger layers allows high cliffs to form. When these fail, large landslips occur. Finely prepared chalk, used as a drawing implement, most commonly in teaching. It is both used in the making of cement, it is a fertilizer for farmland and as a flux in smelting copper and lead ores and in making iron and steel.	There are specific concentrations of past mining activity in Kent, Berkshire, Hertfordshire, Norfolk and Buckinghamshire.
China Clay	China Clay (or Kaolinite) is a layered silicate mineral, It is a soft, earthy, usually white mineral produced by the chemical weathering of silicate minerals like feldspar. Kaolinite is one of the most common minerals. Due to its extremely fine nature (finer than silt), it is mixed with water and transported in tanks as a liquid slurry. It is used in ceramics, medicine, bricks, coated paper, as a food additive, in toothpaste, as a light diffusing material in white incandescent light bulbs, and in cosmetics. A recent use is as a specially formulated spray applied to fruits, vegetables, and other vegetation to repel or deter insect damage. A traditional use is to soothe an upset stomach.	Deposits in central Cornwall near to St Austell are the largest in the world. They have been extracted since 1746 totalling some 120 million tons, but reserves in the ground will last at least another hundred years. There are also concentrations near Carlisle, Cumbria.
Clay	The term “clay” is applied to various earthy materials composed dominantly of hydrous aluminum magnesium silicate minerals. The most familiar characteristic of clay is plasticity or the ability of moist clay to be fashioned into a desired shape. The physical properties of a clay are plasticity, strength, and refractoriness. Plasticity enables the clay to be molded; strength permits it to be handled during the forming, drying, and burning processes; and refractoriness permits it to be burned into a hard body of permanent form. Clay is especially susceptible to changes in climate and hydrology and the action of shrinking and swelling can be a major contributor to subsidence and heave.	Well known concentrations of clays include London, Essex and Cambridgeshire.

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Coal	Coal is a fossil fuel extracted from the ground by underground mining or open-pit mining (surface mining). It is a readily combustible black or brownish-black sedimentary rock. It is composed primarily of carbon along with assorted other elements, including sulphur. Often associated with the Industrial Revolution, coal remains an enormously important fuel and is the largest single source of electricity world-wide. Other constituents of coals include mineral matter, usually as silicate minerals such as clays, illite, kaolinite and so forth, as well as carbonate minerals like siderite, calcite and aragonite. Iron sulphide minerals such as pyrite are common constituents of coals. Sulphate minerals are also found, as is some form of salt, trace amounts of metals, notably iron, uranium, cadmium, and (rarely) gold. Methane gas is another component of coal, produced not from bacterial means but from methanogenesis. Methane in coal is dangerous, as it can cause coal seam explosions, especially in underground mines, and may cause the coal to spontaneously combust. It is, however, a valuable by-product of some coal mining, serving as a significant source of natural gas. Areas with specific methane gas potential include South Wales, Wirral , Staffordshire and Cumbria Coal was not mined in Britain before the high Middle Ages; i.e. after 1000 AD, initially as informal mines, but increasingly deeper shafts were bored with the onset of the industrial revolution.	Coal is now only mined in 9 specific sites, with historic mining activity including South Wales, Nottinghamshire, South Yorkshire, East Kent, County Durham, Bristol & Bath, West Midlands, Northumbria & Lancashire.
Cobalt	Cobalt is a hard, lustrous, silver-grey metal, is found in various ores and is used in the preparation of magnetic, wear-resistant, and high-strength alloys. Its compounds are used in the production of Cobalt is usually not mined alone, and tends to be produced as a by-product of nickel and copper mining activities, and varnishes. Cobalt-60 has multiple uses as a gamma ray source in radiotherapy, treatment of foods for sterilization (cold pasteurization) and in radiography to detect structural flaws in metal parts.	Cobalt is usually not mined alone, and tends to be produced as a by-product of nickel and copper mining activities. It was not commonly found across the UK, but was recovered in conjunction with copper mines near Camborne, Cornwall; Alderley Edge, Cheshire & Central Wales with corresponding silver-lead-zinc veins.
Copper	Copper is a reddish coloured metal, with a high electrical and thermal conductivity (among pure metals at room temperature, only silver has a higher electrical conductivity). In oxidation is mildly basic. Copper has its characteristic colour because it reflects red and orange light and absorbs other frequencies in the visible spectrum, Copper occupies the same family of the periodic table as silver and gold, hence it shares many characteristics with these metals All copper compounds, unless otherwise known, should be treated as if they were toxic. An inherited condition called Wilson's disease causes the body to retain copper, since it is not excreted by the liver into the bile. This disease, if untreated, can lead to brain and liver damage. In addition, studies have found that people with mental illnesses such as schizophrenia had heightened levels of copper in their systems. However it is unknown at this stage whether the copper contributes to the mental illness, whether the body attempts to store more copper in response to the illness, or whether the high levels of copper are the result of the mental illness.	Copper has been mined since the Bronze Age across the British Isles, but mainly in the following locations: West Wales (e.g. Cwmwystwyth) North Wales (e.g. Great Orme) Anglesey (Parys Mountain) Cheshire (Alderley Edge) Stafforshire (e.g. Ecton Mine)
Evaporites	Evaporites are sediments formed when mineral rich water evaporates. They are commonly found in areas of high evaporation, such as dried lakes.	Historic deposits can be found in Cheshire, Derbyshire and Nottinghamshire.
Fireclay	Fireclay is a type of clay used for making firebricks and other items capable of withstanding high temperatures. Because of its stability during firing in the kiln, it can be used to make complex items of pottery such as pipes and sanitary ware.	Unlike conventional brick-making clay, it is mined as a rock at depth, usually found as a seatearth associated with coal measures and distribution in the UK.
Fluorspar	Fluorite may occur as a vein deposit, especially with metallic minerals, where it often forms a part of the gangue (the worthless "host-rock" in which valuable minerals occur) and may be associated with galena, sphalerite, barite, quartz, and calcite Beautiful purple-blue fluorite was used for ornamental purposes, especially in the 19th century. The name derives from French "bleu et jaune" (blue and yellow) characterising its colour. It is now scarce, and only a few hundred kilograms are mined each year for ornamental and lapidary use.	One of the most famous of the older localities of fluorite is Castleton in Derbyshire, England,
Fullers Earth	Fuller's earth is any nonplastic clay or claylike material that can be used to decolourise, filter, and purify animal, mineral, and vegetable oils and greases. It usually has a high magnesium oxide content. It is a variety of montmorillonitic clay that is a natural bleach. It was originally used by fullers to "full" or remove grease from cloth; hence its name. Fuller's earth is also used by military forces to clean soldiers who are contaminated with chemical weapons. It also finds use in special effects when simulating explosions. Fine-grained fuller's earth makes a much larger plume than ordinary dirt, suggesting a larger explosion and allowing a smaller, safer charge to be used. Important uses are in absorbents and filters. Because of this, fuller's earth is sometimes found in cat litter. Hills, cliffs and slopes containing fuller's earth can be unstable, since this material clogs when saturated by heavy rainfall.	It has been mined in the Vale of White Horse, in Oxfordshire, England

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Ganister	Ganister is hard, fine-grained quartzose sandstone, or orthoquartzite, used in the manufacture of silica brick typically used to line furnaces. Ganisters are cemented with secondary silica and typically have a characteristic splintery fracture. Miners originally coined this term for hard, chemically and physically inert silica-cemented quartzose sandstones.	It is commonly, but not always found as seatearths within English Carboniferous coal measures in the North of England.
Gold	Gold is a highly prized precious metal that for millennia has been used as money, a store of value and in jewelry. The metal occurs as nuggets or grains in rocks and in alluvial deposits and is the most malleable and ductile metal known; a single gram can be beaten into a sheet of one square meter, or an ounce into 300 square feet Due to its relative chemical inertness, gold is usually found as the native metal or alloy. Occasionally large accumulations of native gold (also known as nuggets) occur but usually gold occurs as minute grains. These grains occur between mineral grain boundaries or as inclusions within minerals.	The UK distribution is nothing compared to South Africa, for example. However, there are recorded mines in North & West Wales and the Forest of Dean.
Granite	Granite is a common and widely-occurring type of intrusive, felsic, igneous rock and is formed from magma. They can be pink to dark gray or even black, depending on their chemistry and mineralogy. Outcrops of granite tend to form tors, rounded massifs, and terrains of rounded boulders cropping out of flat, sandy soils. Granites sometimes occur in circular depressions surrounded by a range of hills, Granite has been extensively used as a dimension stone and as flooring tiles in public and commercial buildings and monuments. With increasing amounts of acid rain in parts of the world, granite has begun to supplant marble as a monument material, since it is much more durable. Polished granite has been a popular choice for kitchen countertops due to its high durability and aesthetic qualities.	Past mining activity is concentrated around Devon & Cornwall, Lleyn Peninsula, North Wales, Derbyshire and Cumbria.
Gravel	Large gravel deposits are a common geological feature, being formed as a result of the weathering and erosion of rocks. The action of rivers and waves tends to pile up gravel in large concentrations. This can sometimes result in gravel becoming compacted and concreted into the sedimentary rock called conglomerate. Where natural gravel deposits are insufficient for human purposes, gravel is often produced by quarrying and crushing hard-wearing rocks, such as sandstone, limestone, or basalt. Quarries where gravel is extracted are known as gravel pits.	Southern England possesses particularly large concentrations of gravel due to the widespread deposition of gravel in the region during the Ice Ages, with specific concentrations in Surrey, Kent and Sussex.
Gritstone	Gritstone is a sedimentary rock composed of coarse sand grains with inclusions of small stones. It is a coarser version of sandstone and is quarried for building material. British gritstone was used for millstones, to mill flour and sharpen blades, giving rise to its other common name of millstone grit. The rock is much loved by British climbers among whom it has almost cult status and is often referred to as “God’s own rock”. The rough surface providing outstanding friction, allows climbers to stand on or grip the subtlest of features in the rock.	It is commonly found in Derbyshire and Yorkshire.
Gypsum	Gypsum is the more common name for a mineral compound called calcium sulphate dihydroxide, or sulphate of lime. Gypsum is generally found underground near deposits of limestone or other minerals formed by evaporation. Burnt gypsum is valued for its ability to solidify almost immediately after introduction to water. Burnt gypsum is marketed as the molding agent Plaster of Paris. Ordinary schoolroom chalk is also a form of burnt gypsum. Another common use for gypsum is the formation of drywall panels. Gypsum is naturally resistant to fire and heat, which helps it form a barrier between combustible wooden frames and the room itself. Gypsum is also used to strengthen soil weakened by too much clay. Because of its hardening properties, gypsum is a popular ingredient in cement mixtures. Gypsum is also used as a mild abrasive in some toothpastes, since it is considered a non-toxic substance.	There are concentrations in the West and East Midlands, Cumbria, North & South Yorkshire.
Haematite	Haematite is the mineral form of Iron oxide and is a very common mineral, coloured black to steel or silver-grey, brown to reddish brown, or red. It is mined as the main ore of iron.	Past mining activity is typically concentrated in Glamorgan, Cumbria and Cornwall.
Ironstone	Ironstone is a fine-grained, heavy and compact sedimentary rock. Its main components are the carbonate or oxide of iron, clay and/or sand. It contains a high percentage of clay and a low percentage of non-clay materials, and is fired at a high temperature. It was the basis of the industrial revolution on Teeside and vast seams underlie much of East Cleveland where it was mined industrially from 1850. Ironstone is a bountiful and widespread source of iron (Fe), although it only contains less than 50% iron, far less than the other main source of iron, hematite. Most of British iron originates from ironstone, but it is rarely used for this purpose elsewhere.	Concentrations can be found in the Sussex Weald, North Devon, North Yorkshire, Cleveland, Gwent and Lincolnshire

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Mineral	Description	Location
Lead	Lead is a soft, heavy, toxic and malleable poor metal, lead is bluish white when freshly cut but tarnishes to dull grey when exposed to air. Lead is used in building construction, lead-acid batteries, bullets and shot, and is part of solder, pewter, and fusible alloys. The concern about lead's role in mental retardation in children has brought about widespread reduction in its use (lead exposure has been linked to schizophrenia). Paint containing lead has been withdrawn from sale in industralised countries, though many older houses may still contain substantial lead in their old paint: it is generally recommended that old paint should not be stripped by sanding, as this generates inhalable dust. Lead as a soil contaminant is a widespread issue, since lead may enter soil through (leaded) gasoline leaks from underground storage tanks or through a wastestream of lead paint or lead grindings from certain industrial operations.	There was extensive lead mining industry throughout Derbyshire, Cornwall (e.g Poldark), Mid Wales (e.g. Aberystwyth, Wrexham), County Durham, Cumbria and Yorkshire Pennines.
Limestone	Limestone, is a sedimentary rock composed largely of the mineral calcite (calcium carbonate). Limestones often contain variable amounts of silica in the form of chert or flint, as well as varying amounts of clay, silt and sand as disseminations, nodules, or layers within the rock. The primary source of the calcite in limestone is most commonly marine organisms.	It was mined extensively across the Cotswolds, Lincolnshire, Dorset and Somerset.
Marl	Marls are calcium carbonate or lime rich muds or mudstones which contain variable amounts of clays and calcite or aragonite. The term is most often used to describe lake sediments, but is also used for marine deposits. Marl is common in post glacial lake bed sediments often found underlying peat bogs. It has been utilized as a soil conditioner and acid soil neutralizing agent.	Nationwide
Nickel	Nickel is a silvery white metal that takes on a high polish. It belongs to the iron group, and is hard, malleable, and ductile. Nickel is used in many industrial and consumer products, including stainless steel, magnets, coinage, and special alloys. It is also used for plating and as a green tint in glass. Nickel is pre-eminently an alloy metal, and its chief use is in the nickel steels and nickel cast irons, of which there are innumerable varieties. It is also widely used for many other alloys, such as nickel brasses and bronzes, and alloys with copper, chromium, aluminum, lead, cobalt, silver and gold.	The bulk of mined nickel comes from two types of ore deposits. In the UK, the distribution of Nickel follows that of Cobalt in the Central Wales orefield.
Potash	Potash is an impure form of potassium carbonate mixed with other potassium salts. Potash has been used since antiquity in the manufacture of glass and soap, and as a fertilizer.	The main UK location is at Boulby on the North York Moors, but there are other concentrations in West Yorkshire.
Pyrites	The mineral pyrite, or iron pyrite, is iron disulphide. It has isometric crystals that usually appear as cubes. It is brittle, meaning it breaks or powders easily. Its metallic lustre and pale-to-normal brass-yellow hue have earned it the nickname fool's gold, but ironically, small quantities of actual gold are sometimes found in pyrite. It is usually found associated with quartz veins, sedimentary rock and metamorphic rock, as well as in coal beds, and as the replacement mineral in fossils.	There are concentrations in Cornwall, Derbyshire and Gwynedd
Salt	In its mineral form, common salt is known as Halite or 'rock salt'. It is a common mineral, formed by water evaporating from enclosed bodies of salt water. These were subsequently covered by the rock strata formed from other sedimentary deposits. Halite is found in many countries of the world. Beds of halite range in thickness from a few metres to 30 metres or more and have been found at great depths beneath the surface of the earth. This mineral is often found associated with gypsum, sylvite, anhydrite, calcite, clay and sand. It is also associated with oil and gas as its impervious nature stops the oil from escaping, forming a natural reservoir. Petroleum geologists often look for rock salt deposits to lead them to oil and gas. Rock salt is mined from ancient salt deposits which vary in depth from 100 metres or so, to a mile or more. Within the mines, there are extensive roadways formed by the areas from which salt has already been extracted. In Britain, rock salt is mined by either cut and blast or continuous mining techniques. Under either technique, care must be taken to ensure that the mine is stable, by leaving substantial 'pillars of salt' to support the mine roof. Salt has no associated waste products such as slag. In the solution mining (brine) method of extraction, water is forced under pressure into a cavity which forms in the underground salt bed, as the salt dissolves. This turns the water into brine containing about 30% salt. The saturated raw brine is pumped to the purification plant where calcium, magnesium and other impurities are removed, prior to the evaporation process.	The primary commercial deposits in the United Kingdom are found in a wide band running from Northern Ireland, through Cheshire to Cleveland, on the north-east coast.
Sand	Sand is a loose material consisting of grains of rock or coral. It is an example of a class of materials called granular matter. Sand is a naturally occurring, finely divided rock, comprising particles or granules ranging in size from 0.063 to 2 mm. The next smaller size class in geology is silt: particles below 0.063 mm down to 0.004 mm in size. The next larger size class above sand is gravel, with particles ranging up to 64 mm. In the UK, gravel always refers to smooth, rounded, river-worn material, never to angular stones or crushed rock. Sand is often a principal component of the aggregate used in the preparation of concrete. Graded sand is used as an abrasive in sandblasting and is also used for filtering water. Brick manufacturing plants use sand as an additive with a mixture of clay and other materials for manufacturing bricks. Sand is also sometimes mixed with paint to create a textured finish for walls and ceilings or a non-slip surface.	Southern England possesses particularly large concentrations of sand due to the widespread deposition of gravel and silica in the region during the Ice Ages, with specific concentrations in Surrey, Kent and Sussex.

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The following categories of minerals are contained in the Potential Mining Areas data.

Mineral	Description	Location
Sandstone	Sandstone is composed of mineral grains (commonly quartz) cemented together by silica, iron oxide, or calcium carbonate. Sandstones are typically white, grey, brown, or red. The red and brown sandstone is coloured by iron oxide impurities. Most sandstones feel gritty, and some are easily crushed (friable) and break up to form sand. Sandstones have pore spaces between each grain of sand; this property, called porosity, makes them good reservoirs for oil and natural gas.	There are significant concentrations in Derbyshire, West Yorkshire, Northumbria, South Wales and West Sussex.
Silver	Silver is a soft white lustrous transition metal, it has the highest electrical and thermal conductivity of any metal and occurs in minerals and in free form. This metal is used in coins, jewelery, tableware, photography, and in mirrors. Silver plays no known natural biological role in humans, and possible health effects of silver are a subject of dispute. Silver itself is not toxic but most of its salts are, and some may be carcinogenic.	There are notable historic mining records in Mid Wales and Devon.
Slate	Slate is a fine-grained, homogeneous, metamorphic rock which was derived from an original sedimentary rock composed of clay or volcanic ash through low grade regional metamorphism. The result is a foliated rock in which the foliation may not correspond to the original sedimentary layering. Slate can be made into roofing slates, because it has two lines of breakability: cleavage and grain. This makes it possible to split slate into thin sheets.	Typical slate-producing regions include Cornwall, such as the town of Delabole and Penrhyn in Wales.
Tin	Tin is a silvery, malleable poor metal that is not easily oxidized in air and resists corrosion, is found in many alloys and is used to coat other metals to prevent corrosion. Tin bonds readily to iron, and has been used for coating lead or zinc and steel to prevent corrosion. Tin-plated steel containers are widely used for food preservation, and this forms a large part of the market for metallic tin.	The greatest concentration of Tin mining is across Cornwall and parts of Dartmoor & South Devon.
Tungsten	Tungsten is a very hard, heavy, steel-grey to white transition metal and found in several ores including wolframite and scheelite and is remarkable for its robust physical properties, especially the fact that it has a higher melting point than any other non-alloy in existence.	There are specific concentrations in Devon, Cornwall & Cumbria.
Uranium	Uranium is used as the fuel for nuclear reactors and the explosive material for nuclear weapons. When refined, uranium is a silvery white, weakly radioactive metal, which is slightly softer than steel. Before radiation was discovered, uranium was primarily used in small amounts for glass and pottery dyes. There was also some use in photographic chemicals. It was used in filaments for lamps and in the leather and wood industries for stains and dyes. Uranium was also used to improve the appearance of dentures.	There are some specific past mines in Cornwall.
Witherite	Witherite is a barium carbonate and is colorless, milky white, grey, pale yellow, to pale brown.	It is found across Northumbria, Derbyshire and Cumbria.
Zinc	Zinc is moderately reactive, bluish-white metal that tarnishes in moist air producing layer of carbonate. It reacts with acids and alkalis and other non-metals.	It has been mined previously in South Devon, Mid Wales and Cornwall.

Appendix 2: Data Sets Used in The Homecheck Professional Ground Stability Report

Title	Remarks	Source	Data Type	Data Range	Update Cycle	Section
BGS Boreholes	Dating back to 1860's, this represents a compendium of digital records of boreholes and wells systematically catalogued for the whole of Great Britain. The index includes a unique reference number, grid reference and drilled length for each record. The purpose of drilling boreholes includes: mineral or hydrocarbon exploration; water extraction; geothermal energy and monitoring and shallow drillings for site investigations. Other borehole records exist within Great Britain but have not been catalogued in digital format. These data have not been included.	**British Geological Survey (BGS)**	Point & Text	Not Applicable	Quarterly	C 4
BGS Recorded Landfill Sites	This data set relates to a survey of active landfill sites conducted on behalf of the DoE (DEFRA) in 1973. This data is already geo-coded. The survey includes over 3,000 sites accepting waste prior to the Control of Pollution Act (COPA) 1974, and would therefore not have been subject to any strict regulation or monitoring. Further details which may be available from BGS paper records include outline plans, site descriptions, waste types and tipping histories.	**British Geological Survey (BGS)**	Point or Polygon & Text	Not Applicable	Not Applicable	C 2
BGS Recorded Mineral Sites	This data set is geo-coded by BGS. It comprises details of all mines, quarries and mineral sites operating in England, and Wales since 1993. The original data was compiled by BGS in 1993-94, primarily from their own records and also from information supplied by Local Authorities, the Valuation Office Agency and industrial sources.	**British Geological Survey (BGS)**	Point & Text	From 1993	Annually	A 5
Brine Compensation Areas	An area in Cheshire and Greater Manchester that was set out in the Brine Pumping (Compensation for Subsidence) Act (1891) and the Cheshire Brine Pumping (Compensation for Subsidence) Act (1952). The areas outlined in these acts were those deemed to be liable to subside as a result of the salt industry. Any damages as a consequence of these activities are eligible for compensation.	**Cheshire Brine Subsidence Compensation Board**	Polygon	From November 2002	Not Applicable	B 1
Brine Pumping Related Features	This data set contains features relating to brine pumping, including brine 'runs', brine boreholes and wells, and other areas where dissolution has taken place due to brine pumping. A brine run is defined as the line of movement of brine - usually towards the pumping borehole in times of wide brine or natural brine extraction. This leads to the ingress of fresh water into the surface of the salt beds remote from the borehole, causing rapid solution of the surface of the salt and subsequent surface subsidence. The subsidence is usually more severe at the points of freshwater ingress, reducing as the brine content approaches saturation nearer the extraction borehole. Brine runs have existed in geological time, caused by natural solution of the salt beds but have been exacerbated by the pumping of wild brine along such runs.	**Wardell Armstrong LLP**	Point & Polygon	Not Applicable	As Notified	B 1
Coal Mining Affected Areas	This data set is made up of 1km polygon areas which may be affected by coal mining activity.	**Coal Authority**	Polygon & Text	Not Applicable	As notified	A 2
Former Marshes	Locations of former mashes as derived from Historical Ordnance survey 1:10,560 scale mapping	**Ordnance Survey**	Polygon	Not Applicable	Not Applicable	C 1
Licensed Waste Management Facilities (Landfill Boundaries)	This data covers consents for landfill sites issued by the Environment Agency under Section 64 of the Environmental Protection Act 1990 (Part II) and prescribed by Regulation 10 of SI No.1056 the Waste Management Licensing Regulations 1994. The boundaries of these sites are supplied by the EA and currently only relate to active landfill sites.	**Environment Agency**	Polygon & Text	From 1974	Bi-annually	C 3
Licensed Waste Management Facilities (Locations)	This data covers consents issued for current or recently current waste management licence by the Environment Agency, under Section 64 of the Environmental Protection Act 1990 (Part II) and prescribed by Regulation 10 of SI No.1056 the Waste Management Licensing Regulations 1994. Currently, this data is only available for England and Wales.	**Environment Agency**	Point & Text	From 1974	Bi-annually	C 3

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Title	Remarks	Source	Data Type	Data Range	Update Cycle	Section
Local Authority Recorded Landfill Sites	This data is sourced from individual Local Authorities that were able to provide information on sites operating prior to the introduction of the Control of Pollution Act (COPA) in 1974. Where these records have been passed by the Local Authority to the appropriate environment Agency the data was not collected from the Local Authority. Prior to the COPA legislation powers to control waste in the interest of public health were the responsibility of individual Local Authorities. This data has been collated and captured by Landmark.	**Landmark**	Point or Polygon & Text	From 2001	Not Applicable	C 2
Mining Instability	Mining Instability is a data set based on the findings of a report completed by Ove Arup and Partners in December 1991 commissioned by the former Department of the Environment ("DoE"). It forms part of the Geology and Minerals Planning Research Programme of the DoE, aimed at assessing the significance of environmental hazards and their influence on planning and control of development. The main objective of the data is to indicate where mining should be borne in mind when considering planning and development of land.	**Ove Arup & Partners**	Polygon & Text	Not Applicable	Not Applicable	A 1
Natural and Mining Cavities	This data contains details of naturally formed cavities as produced by the processes of dissolution, cambering, marine erosion and other processes. The 'other processes' includes a variety of cavity forms such as soil piping, scour hollows, fault movement and erosion of natural discontinuities in rocks by the action of water. Also contains cavities produced by mining activity in the past for the extraction of chalk, flint and other minerals. This mining information predominantly relates to southern and eastern England the majority being the details of chalk mines.	**Peter Brett Associates**	Point & Text	Not Applicable	Variable	A 4
Potential for Collapsible Ground Stability Hazards.	This assessment is based on data produced by the British Geological Survey ("BGS") using the latest geological mapping information and interpretation by BGS geologists. Maps of this natural subsidence hazard are derived from 1:50,000 geological maps. In small areas of the country where the 1:50,000 scale data is not available, 1:250,000 mapping for bedrock geology and 1:625,000 for Superficial geology has been used. Collapsible ground occurs when certain types of ground, that have an open porous structure with large pore spaces, collapse when too great a load is placed on them or when they become saturated when a lesser load is applied	**British Geological Survey**	Polygon & Text	Not Applicable	Annually	D 1
Potential for Compressible Ground Stability Hazards	This assessment is based on data produced by the British Geological Survey ("BGS") using the latest geological mapping information and interpretation by BGS geologists. Maps of this natural subsidence hazard are derived from 1:50,000 geological maps. In small areas of the country where the 1:50,000 scale data is not available, 1:250,000 mapping for bedrock geology and 1:625,000 for Superficial geology has been used. Certain types of ground, such as that developed beneath river plains, can contain very soft layers or pockets. These can compress under the weight of overlying structures, such as buildings, resulting in progressive depression of the ground and disturbance of foundations.	**British Geological Survey**	Polygon & Text	Not Applicable	Annually	D 1

Appendix 2: Data Sets Used in The Homecheck Professional Ground Stability Report

Title	Remarks	Source	Data Type	Data Range	Update Cycle	Section
Potential for Ground Dissolution Stability Hazards	This assessment is based on data produced by the British Geological Survey ("BGS") using the latest geological mapping information and interpretation by BGS geologists. Maps of this natural subsidence hazard are derived from 1:50,000 geological maps. In small areas of the country where the 1:50,000 scale data is not available, 1:250,000 mapping for bedrock geology and 1:625,000 for Superficial geology has been used. Ground dissolution occurs when certain types of bedrock contain layers of material that can dissolve within the ground water. This can cause underground cavities to develop that, with time, can reach the surface and cause significant ground movement, such as the development of collapse hollows that can directly impinge on buildings.	**British Geological Survey**	Polygon & Text	Not Applicable	Annually	D 1
Potential for Landslide Ground Stability Hazards	This assessment is based on data produced by the British Geological Survey ("BGS") using the latest geological mapping information and interpretation by BGS geologists. Maps of this natural subsidence hazard are derived from 1:50,000 geological maps. In small areas of the country where the 1:50,000 scale data is not available, 1:250,000 mapping for bedrock geology and 1:625,000 for Superficial geology has been used. The Potential for Slope instability occurs due to particular types of slope becoming unstable under certain circumstances, causing down-slope movement of the ground and disruption to buildings. A combination of factors, including, amongst others, the rock type, the presence of excess water (natural or relating to man-made activity), the angle of the slope, and construction work, for example, cuttings or embankments, can all contribute.	**British Geological Survey**	Polygon & Text	Not Applicable	Annually	D 1
Potential for Running Sand Ground Stability Hazards	This assessment is based on data produced by the British Geological Survey ("BGS") using the latest geological mapping information and interpretation by BGS geologists. Maps of this natural subsidence hazard are derived from 1:50,000 geological maps. In small areas of the country where the 1:50,000 scale data is not available, 1:250,000 mapping for bedrock geology and 1:625,000 for Superficial geology has been used. Running sand occurs when loosely-packed sand flows (runs) because water flowing through the spaces between the grains reduces the contact between the grains and they are swept along in the flowing water. This may happen where springs occur at the base of sand outcrops, where excavations in sand go below the water table, around leaking drains or water pipes.	**British Geological Survey**	Polygon & Text	Not Applicable	Annually	D 1
Potential for Shrinking or Swelling Clay Ground Stability Hazards	This assessment is based on data produced by the British Geological Survey ("BGS") using the latest geological mapping information and interpretation by BGS geologists. Maps of this natural subsidence hazard are derived from 1:50,000 geological maps. In small areas of the country where the 1:50,000 scale data is not available, 1:250,000 mapping for bedrock geology and 1:625,000 for superficial geology has been used. Shrinking/Swelling Clay can change volume due to variation in ground moisture. This can cause ground movement, particularly in the upper 2 metres of the ground, which may affect foundations. Ground moisture variations can be related to a number of factors, including weather variations (annual or longer term), vegetation effects (particularly growth or removal of trees) and man-made activity.	**British Geological Survey**	Polygon & Text	Not Applicable	Annually	D 1
Potential Non Coal Mining Areas	This data set has been captured by Landmark from the Metalliferous Catalogue, which is stored at Wardell Armstrong as paper records, and was published in 1958 (plus additions logged by the Health and Safety Executive up until December 1985). It contains records of areas that may be affected by abandoned mines which extracted material other than coal and oil shale Great Britain. It contains details of the mine names, commodities mined and associated dates.	**Wardell Armstrong LLP**	Polygon	Not Applicable	Not Applicable	A 1

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Title	Remarks	Source	Data Type	Data Range	Update Cycle	Section
Potentially Contaminative Industrial Uses (Past Land Uses)	From historical mapping, dating back to the middle of the 19th century, Landmark's Systematic Analysis has identified areas where, historically, the land uses were potentially contaminative. This is drawn from a series of up to six historic map editions - up to four Ordnance Survey 1:10,560 County Series Maps (usually pre-W.W.II), the first National Grid Black and White raster 1:10,560 map and the last National Grid edition Black and White raster map at 1:10,000 scale.	**Landmark**	Point, Polygon & Text	From 1850	Not Applicable	A6 and C1
		Ordnance Survey	Point, Polygon & Text	From 1850	Not Applicable	
Potentially Infilled Land	From historical mapping dating back to the middle of the 19th century, Landmark's Systematic Analysis Department has identified areas where cavities and areas of water or marsh have potentially been infilled with materials. This is drawn from a series of up to six historic map editions - up to four Ordnance Survey 1:10,560 County Series Maps (usually pre-W.W.II), the first National Grid Black and White raster 1:10,560 map and the last National Grid edition Black and White raster map at 1:10,000 scale.	**Landmark**	Point, Polygon & Text	From 1850	Not Applicable	C 1
		Ordnance Survey	Point, Polygon & Text	From 1850	Not Applicable	
Registered Landfill Sites	This data is sourced from public registers, which are visited annually. This data covers consents that have been issued by the Environment Agency and the Scottish Environment Protection Agency, under the Control of Pollution Act (COPA) 1974 and Section 36 of the Environmental Protection Act (EPA) 1990. This data relates to open and closed sites, licensed for the landfill of waste.	**Landmark**	Point or Polygon & Text	From 1976	Annually	C 2
Shallow Mining Hazard	This assessment is based on data produced by the British Geological Survey (BGS) using the latest geological mapping information and interpretation by BGS geologists. Maps of shallow mining hazard are derived from 1:50,000 and 1:250,000 geological maps plus analysis of historical mine plans, enhanced by local geological knowledge built up during detailed geological mapping. This assessment takes into account many types of mining in addition to coal, such as ironstone or limestone extraction. Shallow mining has been defined as workings within 40 metres of the ground surface, and does not include deeper mine workings. Shallow mine workings may have a greater potential for generating ground movement at the surface than deeper workings. Although mining hazard can cause the ground movement, it will not necessarily cause building movement as this depends on the type and age of the building in the area of search.	**British Geological Survey**	Polygon & Text	From 1994	Bi-annually	A 3